

Appendix B

Project Proposals for Implementing Wisconsin's Great Lakes Restoration and Protection Strategy

Aquatic Invasive Species

1. **Develop and implement a regulatory permitting system which ensures that ballast waters are adequately treated prior to discharge to waters of Wisconsin.**
2. **Establish and fund a Wisconsin Great Lakes coastal wetland invasive species program to fund control of aggressive invasive species impacts to coastal wetlands.** Health of the Green Bay and Lake Michigan waters is dependent to some degree on the biological productivity of coastal wetlands along its shore. Some of the highest quality coastal wetland sites along Green Bay and Lake Michigan are the Peshtigo River delta wetlands, Mink River estuary and the North Bay wetlands. These wetlands are threatened with loss of habitat quality by the encroachment of invasive species; currently giant reed grass (*Phragmites spp.*) and the non-native buckthorns (*Rhamnus cathartica* and *Frangula alnus*). Reducing the dominance of these species will protect the productivity and biodiversity of these wetland systems.
3. **Develop a better understanding of the various pathways in which aquatic invasive species become introduced in Wisconsin waters.** Continue support for the Aquatic Invasive Species Specialist position, who works with the aquaculture, aquarium, bait, and rain garden industries. For example, by working with local bait shops, determine if bait are collected from invested waters or brought in from outside the State. This information would help develop guidance for the bait industry in understanding how they can help address the problem. Wisconsin will also participate through the Council of Great Lakes Governors in the regional effort to secure funding to complete construction and provide for long term operation of the barriers in the Chicago Ship Canal.

Habitat and Species

1. **Restoration of Lake Michigan Migratory Corridor Shorebird Stopover Habitat**
This project would entail the restoration of previously drained wetlands in a relatively large block, located near the Lake Michigan shoreline in eastern Wisconsin, possibly in Ozaukee, Sheboygan or Manitowoc County. The intent would be to provide a significant and much needed stopover area to benefit multiple shorebird species, and numerous other bird species. Ideally, the

completed project would in time develop a diversity of habitat types, which would be attractive to many bird species.

Recently, there has been a greater recognition of the critical need for adequate stopover sites for migratory birds, to provide safe resting areas, and foraging sites to replenish physical reserves during migration periods. The proposed project would fill an important need by providing crucial stopover habitat within a geographic area of the state that is currently lacking in this resource.

The types of habitat that would be the focus of the project would be likely to provide the greatest benefits to the following Bird Species of Greatest Conservation Need: American Bittern, Yellow Rail, King Rail, Whooping Crane, American Golden Plover, Solitary Sandpiper, Whimbrel, Hudsonian Godwit, Dunlin, Buff-breasted Sandpiper, Short-billed Dowitcher, Wilson's Phalarope, Common Tern, Forster's Tern, and Black Tern. In time, as other habitats develop on the site, numerous other bird species would also be attracted to and benefit from this project.

In addition to benefits provided in the form of stopover habitat for the species mentioned above, the site would also be valuable as breeding habitat for numerous birds and other animal species; would attract birders which could provide benefits to the local economy; and would provide important wetland functions and values such as flood control, nutrient and sediment retention, and benefits to ground and surface water quality.

This project would probably be the effort of multiple partners, including the Wisconsin DNR; other possible partners include the Wisconsin Bird Conservation Initiative, Natural Resource Conservation Service, U.S. Environmental Protection Agency, Wisconsin Department of Transportation, Wisconsin Wetlands Association, County and local governments, etc.

2. **Development of fish passage structures at those dams that inhibit access to spawning habitat or other populations of the species particularly on the rivers listed in the Strategy.**

Improve fish passage for critical species that utilize both large and small tributaries to Green Bay. Examples of such species include lake sturgeon, northern pike and walleye. Lake sturgeon utilizes the larger tributaries (Fox, Menominee, Peshtigo, and Oconto Rivers) and could benefit from access to spawning habitat above the first or second large dams.

3. **Identify and acquire current high priority wetlands and stream corridors utilized by spawning northern pike in the west shore region of lower Green Bay.** Northern pike utilize small often ephemeral stream networks that drain to the lower regions of Green Bay through the west shore wetlands.

4. **Establish or fund small stream restoration programs to restore or improve connectivity between the pike spawning wetlands and Green Bay.** These programs could include easement and cost sharing programs targeting the highest priority sites. Northern pike utilize small often ephemeral

stream networks that drain to the lower regions of Green Bay through the west shore wetlands.

5. **Establish and fund a Wisconsin Great Lakes coastal wetland invasive species program to fund control of aggressive invasive species impacts to coastal wetlands.**
6. **Identification of adult lake sturgeon populations using riverine habitats and movement of stocked lake sturgeon in riverine habitats:** Identification of habitats used by individuals of different ages and from all populations contributing to the Lake Michigan sturgeon fishery is a fundamental requisite for management and recovery. Data will compliment information on population use of open-water Lake Michigan habitats obtained from 2001-2005. Data on occupancy of riverine habitats during juvenile and adult periods will enable managers to minimize uncertainty when estimating population-specific impacts of exploitation or of environmental disruption and catastrophes associated with pollution, dredging, construction or other anthropogenically mediated events.
7. **Provide maintenance for several restoration sites along the Wolf River that need replanting of native species and removal of invasives.** There are three demonstration sites that the Wolf River Partnership has established over the past. These sites serve to educate on the benefits of restoring riparian habitats. Keeping them in high quality condition is essential for communication and outreach efforts to promote more projects in the basin.
8. **Creek rehabilitation project through the city of Clintonville.**
9. **Inventory rare and threatened native mussels along the Wolf River.** There are several species of mussels unique to the Wolf River ecosystem and it is unknown what impacts our decisions have upon these communities. An inventory and evaluation of the impacts will help with future decisions and ensure a sustainable population is maintained.
10. **Establish and fund a program that specifically targets land acquisition of those lands that are directly contiguous with Great Lakes open waters (e.g., bluffs, cliffs, sand dunes) or contiguous with Great Lakes coastal wetlands.**

Maintaining ecological connectivity between the uplands and the coastal wetlands and open water habitats of the Great Lakes is critical to maintain the quality of those open waters and wetland systems. While programs to fund acquisition of coastal wetlands exist, funding to protect the associated, contiguous uplands is less available.
11. **Fund acquisition of coastal wetlands at WDNR State Natural Area projects.**

Key State Natural Areas include:

 - Bayfield County - Bark Bay Slough, Bibon Swamp, Lost Creek Bog, Port Wing Boreal Forest

- Door County - Baileys Harbor Boreal Forest and Wetlands, Big and Little Marsh, Coffey Swamp, Detroit Harbor
- Douglas County - Nemadji River Floodplain Forest, Pokegema-Carnegie Wetlands
- Kenosha County - Chiwaukee Prairie
- Ozaukee County - Cedarburg Bog

Coastal Health

1. **Provide short-term guidance on nuisance algae beach clean up and provide public information covering pertinent topics through local signage ordinances.**
2. **Fund wellhead protection plans and replace existing water quality testing methodologies with real time testing methodologies.**
3. **Complete environmental inventories of both emerging pathogens and other pollutants that are comprehensive and include watersheds, wastewater inputs and drinking water withdrawals. From this inventory the sources, fates, and reduction strategies for these items of concern can be evaluated.**
4. **Implement a strategy to monitor emerging contaminant such as those on the Wisconsin Watch List, pharmaceuticals and personal care products.**
5. **Working with local agencies, develop and implement a strategy to improve confidence in collection methods and identify and correct sources of pathogens which are resulting in beach closures. Continue investigation of causes and solutions for *Cladophora* problems.**
6. **Establish a cost-sharing program for proper abandonment of wells not in use. Project would help eliminate transport of pathogens and contaminants directly to groundwater.**

Persistent Bioaccumulative Toxins

1. **Promote a Community Mercury Reduction program.** Several sectors of the community need to reduce their use of mercury-containing products and increase recycling for those products (hospitals, dental offices, etc), and thus this should be viewed as a multi-media initiative that lends itself to creative DNR/municipal partnerships for successful mercury reduction. This activity has occurred in pilot municipal mercury reduction programs over the last ten years and will occur via WPDES discharge permits over the next ten years.

2. **Promote a Product Mercury Reduction program using the success in the Lake Superior Basin as a model.** This work is both timely and greatly enhances the community mercury reduction initiative noted above. Target products based on recommendations by the Great Lakes Mercury Product Strategy workgroup.
3. **Develop an overall state PBT strategy to address pollutants as a whole.** Over the years efforts to research, inventory, and develop regulations and policy to reduce PBTs have been accomplished on an individual pollutant basis.

AOCs/Contaminated Sediment

1. **Revitalize RAP process and engage local communities for each AOC to develop implementation priorities for the actions listed in the RAPs.** Bring the issues back to the community using outreach and educational activities, so a well informed and motivated citizenry will help drive the clean-up. Engaged communities that understand the benefits of taking back the river could be deployed to move agencies and responsible parties to action.
2. **Participate in the Federal-State AOC Coordinating Committee to ensure Wisconsin needs are addressed.** Begin development of delisting criteria for each Area of Concern.
3. **Proposals for sediment projects located within four of the five Wisconsin AOCs** have been submitted for Legacy Act funding as follows:

Area of Concern	Project Title	Applicant
St. Louis River - MN	St. Louis River/Interlake/Duluth Tar Site Remediation	GKN North America Services, Inc.
St. Louis River – WI	Hog Island Inlet – Newton Creek, Segment L Contaminated Sediment Remediation	Wisconsin DNR
Sheboygan River	Upper Sheboygan River Environmental Dredging	Pollution Risk Services
Menominee River	Former Manufacture Gas Plant Site, Marinette, WI (PROPOSAL WITHDRAWN)	Wisconsin Public Service Corporation
Milwaukee Estuary	Restoration of the Kinnickinnic River, Milwaukee, Wisconsin	Wisconsin DNR

Nonpoint Source Management

1. **Continue and enhance the federal-state-local implementation of the Conservation Reserve Enhancement Program (CREP)** on cropland and marginal pastureland in eligible areas within the Great Lakes Basin. Over time, seek expansion of CREP eligibility to all agricultural areas of the Great Lakes Basin. Enforce buffer requirements on new developments.
2. **Continue establishment of grassed waterways and other practices that manage runoff in locations of concentrated flow.** Critical geographic areas include Green Bay, the nearshore of Lake Michigan, and Areas of Concern (AOC).
3. **Implement NR 151 performance standards and prohibitions as called for in state administrative rules through a number of federal, state and local programs, including EQIP (USDA – NRCS), Targeted Runoff Management projects (DNR) and Land and Water Grants (DATCP).**
4. **Fully implement the Urban Storm Water Discharge Permit program (DNR -- Ch. NR 216, Wisconsin Administrative Code).**
5. **Improve management of storm water quality in previously developed urban areas by retro-fitting storm water management practices (e. g. DNR – Urban Runoff Management Grants).**
6. **Implement the Information and Educational 5 year strategy developed by a committee for the North East Wisconsin Storm Water Coalition (NEWSWC).** The project is intended to modify behavior towards ecological stewardship. Techniques will vary depending on target audience.
7. **Through federal-state-local technical assistance, continue to promote proper residue management that accommodates management of manure to minimize the amount of bacteria in runoff waters.** Develop and implement comprehensive phosphorus-based nutrient management plans on all Great Lakes drainage basin farms that are over a certain size (in acres).
8. **Increase funding to non-point sediment delivery abatement programs to reduce high sediment load from both urban and rural portions of the lower Fox River watershed.**
Excess sediment delivery to Lower Green Bay contributes to increased algae blooms, and increased turbidity within the lower Bay. It has been shown that a large percentage of this sediment is coming from the lower Fox River watershed.
9. **Provide additional funding to an outreach program for absentee landowners in the Wisconsin Great Lakes Basin to encourage enrollment of their land in CREP.** The fund invested in this project will further develop, demonstrate, and evaluate innovative approaches designed specifically to target absentee landowners.

Sustainable Development

1. **Support the use of a portion of funding from new federal Great Lakes cleanup dollars for waterfront revitalization of Great Lakes brownfields in Wisconsin communities.** Support funding of state brownfield grant and loan programs, including the Brownfield Site Assessment Grants (DNR), Green Space and Public Facilities Grants (DNR) and Commerce Brownfield Grants and support funding of the federal brownfield grant and loan programs and tax incentives, as well as other related funding (e.g. Community Development Block Grants and Coastal Management/Restoration Grants).
2. **Work with the State Department of Tourism to promote certification of green tourism businesses.** The Travel Green Wisconsin is a voluntary, affordable program that reviews, certifies, and recognizes tourism businesses that have made a commitment to continuously improve their operations in order to reduce their environmental and social impact. This program helps businesses evaluate their operations, set goals and take specific actions towards environmental, social and economic sustainability.

Indicators and Information

1. **Work with WI DNR Great Lakes monitoring team leader to evaluate monitoring protocols established through the WI DNR Water Division's Monitoring Strategy to determine if the SOLEC indicators are addressed sufficiently.**
2. **Support State Cartographer Office activities in clearinghouse and metadata and implement interoperability standards beginning at the state agency level.**
3. **Assist in convening an annual meeting to present monitoring results in a public forum using existing Great Lakes' partnership groups.**
4. **Develop a Migratory Bird Routes in Wisconsin GIS layer in partnership with DNR Bureaus of Wildlife and Endangered Resources.**